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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/623,198 | 07/18/2003 | Bruce Baretz | 4241-198 CON | 2836 |
| 23448 7590 06/26/2007 INTELLECTUAL PROPERTY / TECHNOLOGY LAW PO BOX 14329 RESEARCH TRIANGLE PARK, NC 27709 | | | EXAMINER LE, THAO X | |
| | | | ART UNIT 2814 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/623,198 | Applicant(s) BARETZ ET AL. | |
| | Examiner Thao X. Le | Art Unit 2814 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 25-69 is/are pending in the application.
- 4a) Of the above claim(s) 1-17, 25-30, 39-42 and 53-69 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-38 and 43-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/20/07, 6/4/07</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status Of Claims

1. Claims 1-17, 25-30, 39-42, and 53-69 are withdrawn
2. Claims 18-24 are canceled
3. Claims 31-38 and 43-52 are being considered on merit.

Response to Amendment

4. The affidavit under 37 CFR 1.132 filed 5/29/07 is insufficient to overcome the rejection of claims 31-38 based upon 35 U.S.C. 103(a) as set forth in the last Office action because: It refer(s) only to the system described in the above referenced application and not to the individual claims of the application. The Affidavit does not explain why the LED and phosphor layer of Stevenson in combination with the LED of Kitagawa or Tadatomo would have failed to produce the white light. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716.

5. In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

6. The finality of action dated 01/29/07 is withdrawn because lack of ground of rejection for claims 43 and 44-52. The following final rejection is based on the Applicant amendment on 6/28/06.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 31-36, 44, 49, 50, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 3819974 to Stevenson et al in view of US 5237182 to Kitagawa et al. or US 5770887 to Tadatomo et al.

Regarding claims 31, Stevenson discloses a display including at least one light emission device, wherein each light emission device comprises an LED energizable to emit radiation (violet), col. 3 line 26, and a luminophoric medium (phosphor), col. 3 line 31, arranged to be impinged by radiation emitted from the LED and to responsively emit radiation in a range of visible white light spectrum, column 3 lines 26-31 and column 4 lines 1-5.

But, Stevenson does not disclose the LED emits radiation in the blue to ultraviolet spectrum.

However, both Kitagawa and Tadatomo disclose in fig. 1 and fig. 3 a LED emits radiation with a emission maximum in a spectral range in the blue to ultraviolet spectrum, col. 1 line 11 and col. 1 lines 31-33, respectively. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the LED teaching of Kitagawa or Tadatomo in Stevenson's device, because it would have provided a LED having good and efficient emitting radiation in blue to ultraviolet spectrum as taught by Kitagawa in col. 1 lines 7-15 and Tadatomo in col. 1 line 4-10.

Although the prior art does not specially disclose the 'white light' limitation, this feature is seen to be either inherent or obvious because the combination of Stevenson and Kitagawa and/or Tadatomo is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. Or where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977) and MPEP 2112.01. Furthermore, the inorganic phosphor converting the UV light to white light is well known as discussed in the specification on page 6 by the Applicant.

Regarding claims 32-33, Stevenson discloses the display wherein the luminophoric medium of each light emission device comprises phosphor material,

col. 3 line 31, wherein the luminophoric medium comprises material responsively emitting radiation in at least the green spectrum. The luminophoric medium recited in Stevenson is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. Or where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977) and MPEP 2112.01.

Regarding claim 34, Stevenson does not disclose the display wherein the LED in each light emission device comprises a blue light LED.

However, as discussed in the claim 31 above, both Kitagawa and Tadatomo disclose blue light LED for the same reason.

Regarding claim 35, the combination of Stevenson and Kitagawa and/or Tadatomo have the white light output of each light emission device comprises primary radiation emission from the LED and a secondary radiation emission from the luminophoric medium (phosphor) for the same reason as discussed in the claim 31 above.

Regarding claim 36, Stevenson, Kitagawa, and Tadatomo disclose the display wherein the LED comprises material selected from the group consisting of: GaN, col. 1 line 63, col. 4 line 39, and col. 3 line 14, respectively.

Regarding claims 44, 49, Stevenson discloses an apparatus comprising a display, fig. 3, electrical circuitry 19/21, fig. 3, operatively coupled with the display, and

at least one light emission device, wherein each light emission device comprises an LED energizable to emit radiation (violet), col. 3 line 26, and a luminophoric medium (phosphor), col. 3 line 31, arranged to be impinged by radiation emitted from the LED and to responsively emit radiation in a range of visible white light spectrum, column 3 lines 26-31 and column 4 lines 1-5.

But, Stevenson does not disclose the LED emits radiation in the blue to ultraviolet spectrum.

However, both Kitagawa and Tadatomo disclose in fig. 1 and fig. 3 a LED emits radiation with a emission maximum in a spectral range in the blue to ultraviolet spectrum, col. 1 line 11 and col. 1 lines 31-33, respectively. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the LED teaching of Kitagawa or Tadatomo in Stevenson's device, because it would have provided a LED having good and efficient emitting radiation in blue to ultraviolet spectrum as taught by Kitagawa in col. 1 lines 7-15 and Tadatomo in col. 1 line 4-10.

Although the prior art does not specially disclose the 'white light' limitation, this feature is seen to be either inherent or obvious because the combination of Stevenson and Kitagawa and/or Tadatomo is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. Or where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been

established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977) and MPEP 2112.01.

Furthermore, the inorganic phosphor converting the UV light to white light is well known as discussed in the specification on page 6 by the Applicant.

Regarding claim 50, the combination of Stevenson, Kitagawa and/or Tadatomo disclose the claimed limitation.

Regarding claim 52, Stevenson does not explicitly disclose the apparatus comprising a power supply coupled with the electrical circuitry.

However, such power supply is implicitly disclosed and is understood by the disclosure of Stevenson in order to operate such LED.

10. Claims 37-38, 45-46, and 51 are is rejected under 35 U.S.C. 103(a) as being unpatentable over US 3819974 to Stevenson et al and US 5237182 to Kitagawa et al. or US 5770887 to Tadatomo et al. as applied to claims 31 above and further in view of US 5771039 to Ditzik.

Regarding claim 37-38, 45-46, and 51, Stevenson does not disclose the display comprising a liquid crystal display or a backlight display.

However, Ditzik discloses a display device comprising a liquid crystal display or a backlight display including plurality of LED, col. 3 lines 4. At the time the invention was made; it would have been obvious to one of ordinary skill in the art to use the teaching of Ditzik with Stevenson, because LED can be used as a light source for LCD or backlight for intended used, MPEP 2144.07.

11. Claims 43, 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 3819974 to Stevenson et al and US 5237182 to Kitagawa et al. or US 5770887

to Tadatomo et al. as applied to claims 31 above and further in view of Applicant Admitted Prior Art (AAPA).

Regarding claims 43, 47-48, Stevenson does not disclose wherein the luminophoric medium in each light emission device comprises a material responsively emitting radiation in at least the green, yellow spectrum.

However, AAPA discloses a luminophoric medium in each light emission device comprises a material responsively emitting radiation in at least the green, yellow spectrum, specification pages 11-12. At the time the invention was made; it would have been obvious to a person having ordinary skill in the art to replace luminophoric medium teaching AAPA in the display device of AAPA in order to obtain a desired color for intended application.

Response to Arguments

12. Applicant's arguments filed 20 Nov. 2006, 28 June 2006, and 29 May 2007 have been fully considered but they are not persuasive. The Applicant argues that Stevenson discloses no actual phosphor and is wholly speculative on the utility of such application. First, the phosphor disclosed by the instant application may be different than that of the phosphor as disclosed by Stevenson. However, the claim language fails to claim such differences. Thus, it appears that the Applicant argues that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the differences of phosphor or LED structure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Second, Stevenson discloses the light may be converted to lower frequencies with phosphor material, col. 3 lines 29-31. And the Applicant in page 6 confirms such conversion last paragraph clearly discloses the phosphor layer, which in turn can offer white light, absorbs the UV light. Therefore the combination of Stevenson, Kitagawa and Tadatomo produce the same results as claimed. Therefore such phosphor white light conversion is well known in the art. Something that is old does not become patentable upon the discovery of a new property. The claiming of a new use, new function or unknown property, which is inherently present in the prior art does not necessarily make the claim patentable. MPEP 2112.

13. The examiner submits that using the LED teaching of Kitagawa or Tadatomo does not change the principle of operation of the primary reference or render the reference inoperable for its intended purpose. See MPEP § 2143.01. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983). It is not necessary that the inventions of the references be physically combinable to render obvious the invention under review."; and *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973). Combining the teachings of references does not involve an ability to

combine their specific structures. Thus, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore, prior arts must be considered in entirety, including discloses that teach away from the claims, MPEP § 2143.01-02.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X. Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

Art Unit: 2814

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

20 June 2007



THAO X. LE
PRIMARY PATENT EXAMINER